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## A new Upper Carboniferous Blattoid from Mafra Formation. Itararé group, Paraná Basin, Brazil.

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**Abstract** - A new Blattoid species from Paraná Basin, *Anthracoblattina mendesi* Pinto et Sedor, sp. nov. is registered for Mafra Formation, Itararé group, Upper Carboniferous, Mafra County, Santa Catarina State. Insects of the same genus and age have been found at Teixeira Soares Formation, Teixeira Soares County, Paraná State, Brazil.

**Keywords** - Insecta, Blattodea, Carboniferous, Brazil

### INTRODUCTION

A blattoid insect represented by positive and negative wing imprints is studied. This insect material is the first one collected at Mafra, Santa Catarina State although similar wings have been registered for the State of Paraná as pointed out below.

The pieces of rocks were collected by Fernando A. Sedor in 1997 field trip and they have been stored in the Museu de Ciências Naturais, Setor de Ciências Biológicas, Universidade Federal do Paraná (MCN-SCB-UFPR). The material was moistened with alcohol to get better details of the specimen, and the drawings were made under stereomicroscope.

The specimen was collected in an outcrop at the right side of kilometer 166 of the Road BR-280 which links the counties of Mafra and Rio Negro, near downtown Mafra, a city of Santa Catarina State, Brazil. The sediments belong to Mafra Formation, Itararé Group, Upper Carboniferous, Parana Basin.

### SYSTEMATIC

Classis Insecta

Ordo Blattoptera Brunner, 1882

Familia Phylloblatidae Schneider, 1983

Genus *Anthracoblattina* Scudder, 1919

*Anthracoblattina mendesi* Pinto et Sedor, sp. nov.  
Fig. 1a; Fig.2a-d

Designatio nominis - In honour to Prof. Marcio Mendes

Holotypus - Positive and negative wing imprints MCN.P. 218 a, b

Paratypus - Positive and negative wing imprints MCN.P.65 a, b

Locus typicus - Outcrop at km 166 of the Road BR-280 near Mafra city, Santa Catarina State.

Stratum typicum - Mafra Formation, Itararé group, Upper Carboniferous, Paraná Basin, Brazil.

**Diagnosis** - A 25.0 mm long wing imprint lacking the apical part, total size probably 28.0 mm; width 12.0 mm; costal area a narrow strip around 5/7 of the wing length; SC sigmoidal with a distal fork and sending off forward more than 10 long oblique branches to the anterior margin, two of which bifurcate. R forking distally much after the anal area and just before M furcation. R and M sending their branches to the posterior side; CuA almost straight, direct toward the apex, sending off posteriorly more than six inclined simple branches; CuP a simple sigmoidal vein; AA1 a single strongly arched vein; AA2 an arched vein with two branches; AP1 a



strongly single sigmoidal vein; AP2 a single almost straight vein; AP3 a single concave veins parallel to the posterior margin. Archediction anatomic net-striat structure.

**Type species** *Anthracoblattina mendesi* sp. nov.

**Description** - A specimen presenting two fore wings one lacking the apical portion and the other the apical portion and the anal area. The preserved part of the right wing is 25.0 mm long and 12.0 mm wide. The anterior margin, not very clear, is slightly arched except basally where it curves strongly back; posterior margin curves more strongly basally. SC slightly sigmoidal vein 23.0 mm long, about 5/7 of the wing length; limiting a narrow stripped costal area with more than 10 long forward inclined branches to the anterior margin. These branches are simple except two furcate: the seventh and ninth from SC distal end. R a sygmoidal vein parallel to SC ends in the costal margin after forking at 18.0 mm from the base, sending posteriorly two branches. M slightly arched vein furcating just after R furcation, sending at least two branches posteriorly, the first bifurcate (Paratype, Fig.2d). CuA parallel to M direct to the apex sending at least five simple forwardly inclined branches to the posterior margin; CuP a widely arched simple vein basally linked to CuA. A large anal area, 13.0 mm long, further than the mid-length of the wing; AA1 a strongly simple curved sigmoidal vein, AA2 parallel to AA1, with two branches AP1 a strong single slightly curved vein; AP2 a single almost straight vein; AP3 a single concave vein parallel to the posterior margin. Archedyction an anatomic net-striat structure all over the wing.

**Remarks** - The new species presents strong similarity to the species: *Anthracoblattina oliveirai* (Carpenter 1930) Fig.1b and *Anthracoblattina langei* (Pinto & Purper, 1979) Fig.1c from Teixeira Soares Fm, Upper Carboniferous, Paraná Basin, Brazil, but differs from these species in having the furcation of R and M more distally. Unfortunately in both species the anal area is missing to be compared with the new species. It must be compared with *Anthracoblattina* sp. nov. Pinto & Mendes (in print) Fig.1d from the Nueva Lubecka Fm., Upper

Carboniferous, Betancourt, Chubut, Argentina, but it differs in having the CuA with single straight branches and in having AA2 with branches not single; *Anthracoblattina ensifer* Brogniart, 1892 (var. 2 of Meunier, 1921 in fig. 39) Fig.1e from Commentry Upper Carboniferous of France is largely similar to the new species inclusive in the anal area but differs because this species has much bigger size (wings 38.0 mm long and 18.0 mm width); several furcate SC branches (the new species only two); R with shorter distance between first and second furcation; CuA not so inclined, running straight to the apex; with all branches single; the branches of the anal area are very similar but they are much more arched.

**Observation** - Schneider (1983) put *Phyloblatta oliveirai* under the genus *Anthracoblattina*. *Anthracoblattina* sp. nov. Pinto & Mendes was presented in I Simpósio Argentino del Paleozóico Superior, 1999 (in print) and *Anthracoblattina ensifer* is the selected specimen (Fig. 39) of several ones put in that species by Meunier (1921).

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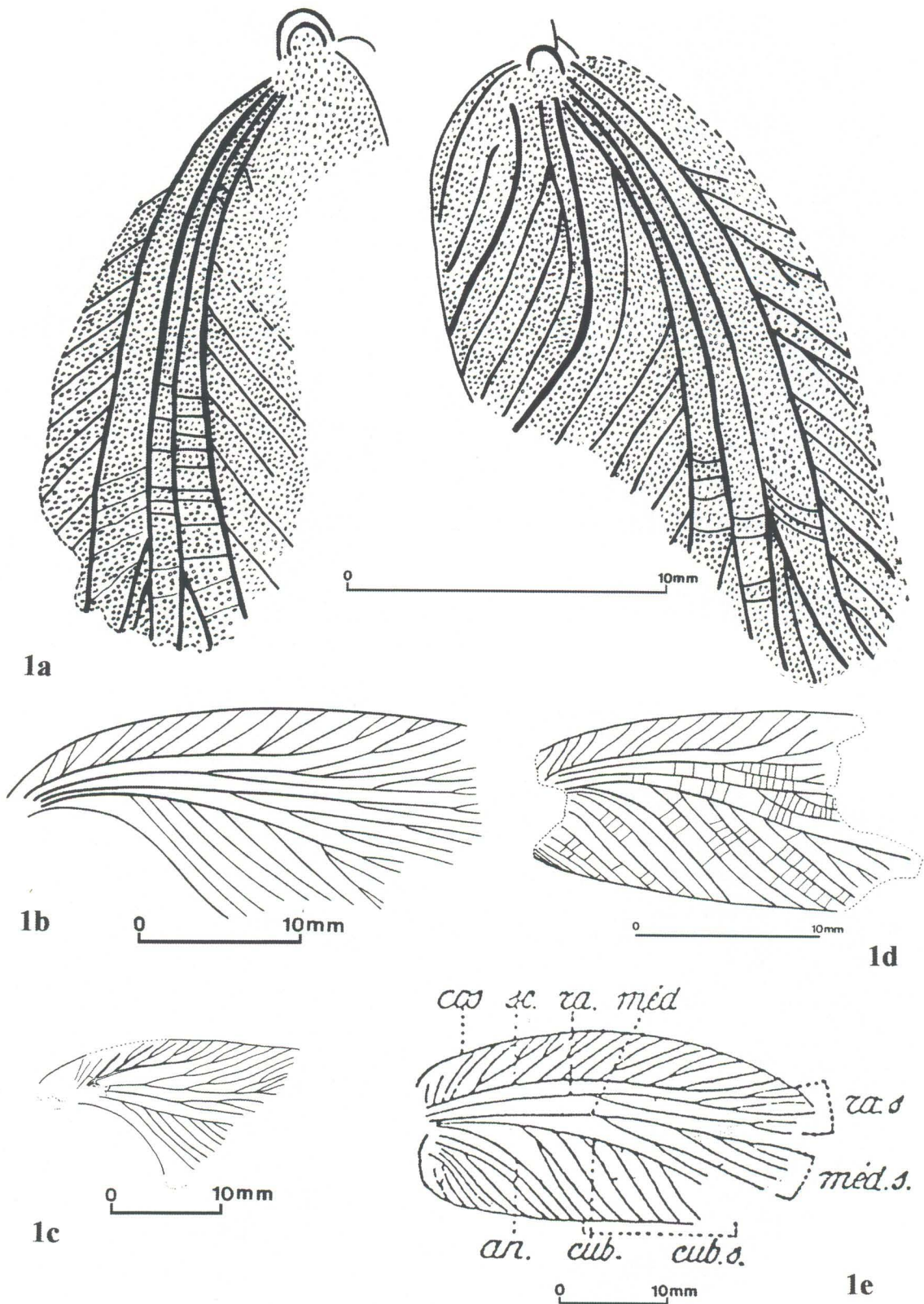


Figure 1 - New species and Carboniferous comparative forms from South America and France

Figure 1a - *Anthracoblattina mendesi* Pinto & Sedor sp. nov. from Mafra Fm, Upper Carboniferous, Brazil. Holotype MCN.P.218 a, b.

Figure 1b - *Anthracoblattina oliveirai* (Carpenter, 1930) from Teixeira Soares Fm. Brazil

Figure 1c - *Anthracoblattina langei* (Pinto & Purper, 1979) from Teixeira Soares Fm. Brazil.

Figure 1d - *Anthracoblattina* sp. nov. Pinto & Mendes, 1999 (in print) from Nueva Lubeck Fm. Argentina

Figure 1e - *Anthracoblattina ensifer* Brongniart, 1892. This figure is reproduced from Meunier 1921, fig.39 from Houiller Commeny, France. (An is not anal but CuP).



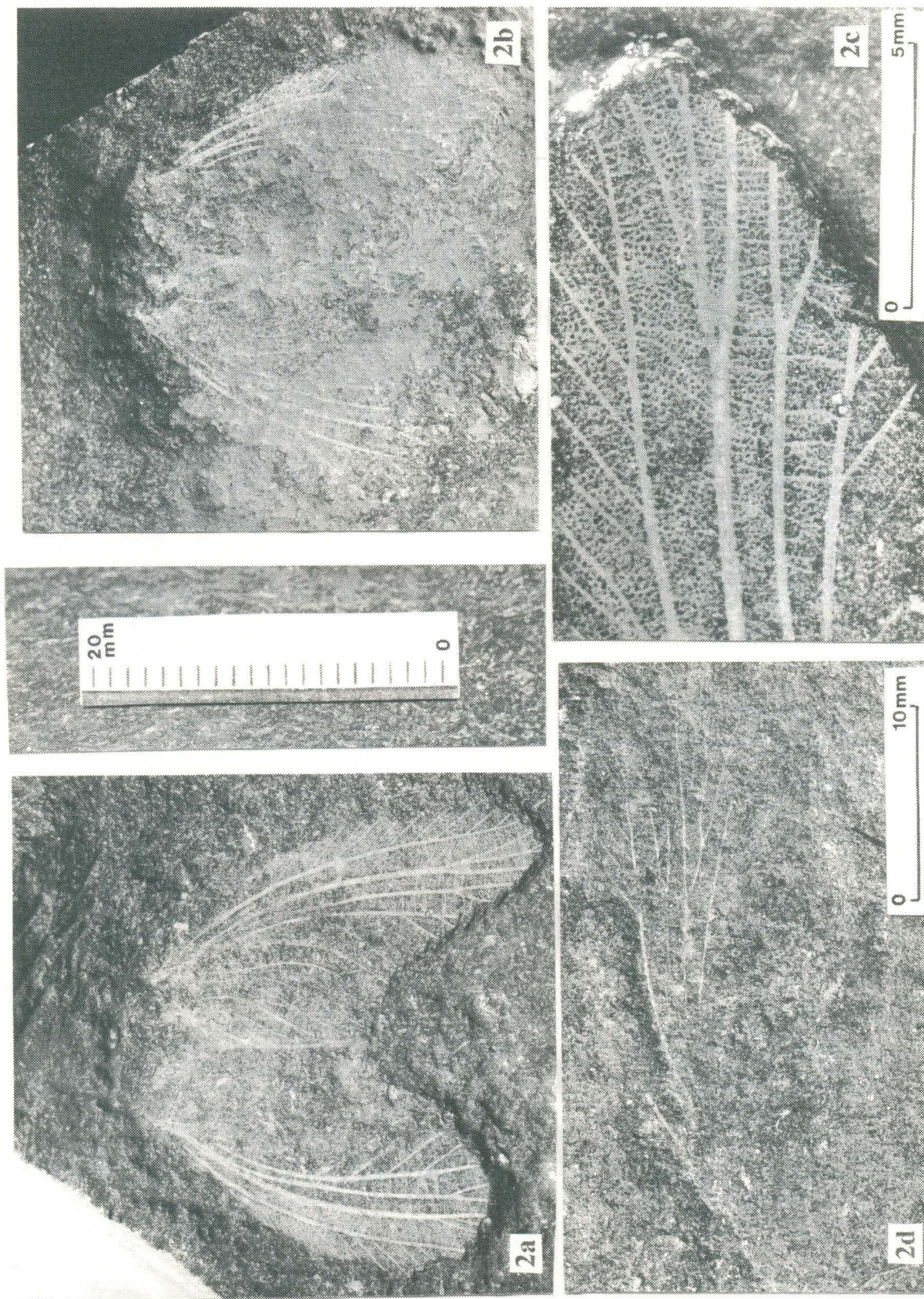


Figure 2 - *Anthracoblattina mendesi* Pinto & Sedor sp. nov., from Mafra Fm., Upper Carboniferous, Brazil. Holotype MCN.P.218a,b

Figure 2a - Positive imprint of the Holotype MCN.P.218a

Figure 2b - Negative imprint of the Holotype MCN.P.218b

Figure 2c - Portion of the wing showing the anatomic net-striat structure of the Holotype MCN.P.218a.

Figure 2d - Paratype MCN.P.65a showing two branches in M vein.